

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of
Revision of the Commission's Rules to Ensure
Compatibility with Enhanced 911 Emergency
Calling Systems.

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PS Docket No. 07-114

REPLY COMMENTS OF NENA: THE 9-1-1 ASSOCIATION

- I. NENA does not consider supplemental location an acceptable end-state for NG9-1-1. NG9-1-1 requires that location be provided with the call's signaling.**

NG9-1-1 requires location to be delivered *with* a call to the NG9-1-1 system, in accordance with standards. The location is then used throughout the system in a standards-based way, for routing as well as for locating the caller and dispatching to that location. Our initial filing discussed at length the provision of location information through supplemental location providers. It also discussed the delivery of Device-Based Hybrid (DBH) location information through the traditional Automatic Location Identification (ALI) pathway. DBH location delivered over-the-top is always — absent Commission action — *supplemental* to the location provided by the carrier; accordingly, location via ALI is not NG9-1-1, even if it is extremely accurate or otherwise meets the Commission's rules for indoor location accuracy. The discussion in NENA's most recent comments in this proceeding is provided to support the argument that, given the increasing ubiquity of DBH (PSAPs have access to DBH today through multiple sources), it is reasonable to require that Originating Service Providers (OSPs)¹ provide that location for 9-1-1.

¹ For the purposes of this filing, OSP and Commercial Mobile Radio Service (CMRS) provider are used interchangeably.

II. In our initial filing, NENA expressed concern about the viability of the NEAD. This should not be interpreted as a condemnation or a call for abandoning the program.

We note that NEAD's low industry participation and objections from crucial stakeholders present a major obstacle to the adequate provision and maintenance of sufficient addressing data. We are also concerned with the relatively low success rate with NEAD in a testing environment. Lastly, we are concerned that NEAD is potentially redundant to commercial location services used for DBH, which include a similar functionality as one of many parts of the system to identify the location of the caller, and which may perform better.

Architectures in prevailing standards for NG9-1-1 like i3 generally do not assume that candidate dispatchable location from a NEAD is the *only* source of location information; they are designed to ingest multiple sources of location and make the best decision. Thus, even if better location technologies are available for most cases, and even if the Commission's rules require a geodetic location delivery, NEAD may still provide benefit to public safety.

We acknowledge the hard work invested into the development and testing of the NEAD and that NENA originally supported the program; that said, we recognize the massive innovations in mobile location that have occurred since the program was established, and we urge the Commission to consider in its metric the most future-proof solution for three-dimensional location of a 9-1-1 caller indoors.

III. NENA does not mean to suggest that a first responder should not be dispatched to a civic address ("dispatchable location") if that is what suits operational needs.

In most cases, a field responder will need to know which floor and suite of a multi-story building to go to, since a point or shape in 3D space is not particularly actionable information. That said, we believe the reverse geocoding that produces a civic address should be calculated as close to the PSAP as possible, in accordance with the varying operational policies of that PSAP; and that OSP-provisioned civic addresses (in situations where more precise and robust location data, such as DBH, is provided to the OSP) place PSAPs at a disadvantage in terms of accurate and precise location provisioning.

As outlined in our initial filing, we do not believe that if an OSP is required to provide *only* a dispatchable location to meet z-axis requirements (as was, more or less, proposed in the 2015 rules) it will

be sufficient for locating a 9-1-1 caller; or when it is, the best way to do so.² We believe that OSPs *must* provide the original geodetic location information made available to them *directly* to the 9-1-1 system, and that the location *must* include a z-axis measurement. If both a dispatchable location (such as through NEAD and/or a 3D dataset) and geodetic location (such as collected through location services) are available, OSPs *should* provide both. However, for compliance purposes, geodetic location information *should* be the primary; that is to say: if only one source of location is required under the rules, that location should be geodetic.

IV. Our initial filing strongly suggests that location services are the best source of location from mobile phones, and in turn, what OSPs should be required to provide.

We believe this is likely the case. However, we do not mean to preclude other sources of location to be used to locate the caller. Nonetheless the Commission should require OSPs to deliver a Location Object (LO).³ For example, OSPs may include indoor positioning from third-party positioning systems for three-dimensional, indoor location. This may be used instead of or in addition to location services provided from the handset. NENA does not intend to comment on a specific business model or implementation outside of prevailing standards. However, OSPs should provide LO to the 9-1-1 system, formatted to be compatible with prevailing standards. As argued in our initial filing, it is reasonable to require them to do so.


As argued in our initial filing, if OSPs would otherwise reference a geodetic location including a z-axis measurement against a 3D dataset to determine a dispatchable location, the OSPs *must* provide that original location, including its uncertainty, to the 9-1-1 system. Any positioning methods used for emergency calling purposes, including location services, must be tested in the appropriate forum.

² 2015 Fourth Report and Order at 21: Though the proposed rules state CMRS providing dispatchable location must also provide x, y and z where “feasible and appropriate”, geodetic information was not to be “considered for FCC purposes”.

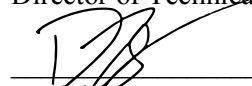
³ NENA uses this term here, as we did in our initial filing, generically, to describe location delivered in accordance with prevailing standards. However, “Location Object” or “LO” does not necessarily mean “PIDF-LO”; such a specific distinction is far afield of the Commission’s scope in rulemaking. However, we note that this is not made explicitly clear in our original filing.

If dispatchable location methods (such as NEAD) prove to be the best way to locate a caller, through testing in the appropriate forum, then such should be codified in the Commission's rules. If this is the case, dispatchable location should be delivered as LO, as argued in our initial filing, to facilitate NG9-1-1 and interoperability. This requirement is reasonable and consistent with prevailing standards for NG9-1-1.

Respectfully submitted,



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